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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,600	08/07/2006	Osamu Kawamoto	59406.00043	9588
32294 7590 05/14/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212			EXAMINER CASAREGOLA, LOUIS J	
			ART UNIT 3741	PAPER NUMBER
			MAIL DATE 05/14/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/588,600

**Applicant(s)**

KAWAMOTO ET AL.

**Examiner**

Louis J. Casaregola

**Art Unit**

3741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)  
Paper No(s)/Mail Date 8/7/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

### ***Objections To Claims***

Claims 4 and 5 are objected to under 37 CFR 1.75(a) for the following reasons:

In claim 4, line 3, "the curved portion" lacks antecedent basis.

In claim 5, line 3, "the reduced diameter portion" also lacks antecedent basis.

### ***Claim Rejections - 35 USC 112***

Claims 1-14 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claim 1 and related dependent claims 2-14 recite "a first compressor provided in a downstream end of the intake passage" (claim 1, line 9), "a turbine provided adjacent to an outlet end of the combustor" (claim 1, line 11), "a rotary shaft rotatably received in the inner liner and having a front fan" (claim 1, line 12), and "the rotary shaft further carrying an impeller wheel of the first compressor and a turbine wheel of the turbine" (claim 1, lines 14-15). Attention is now called to the disclosed embodiment of the invention in Figure 1. This figure shows a fan 12, a first compressor at the downstream end of the intake duct, compressor "HC", and a turbine adjacent the combustor outlet, turbine "HT". Contrary to what the claim states, however, the compressor and turbine

wheels are not on the shaft with the fan, inner shaft 8, but rather, on outer shaft 7. The cited claim language is thus inaccurate and indefinite since it conflicts with the disclosed embodiment of the invention.

The claims further recite "foreign matter introduction openings formed in the inner casing" (claim 1, line 18). This language is likewise inaccurate and indefinite since, as shown in Figures 2 and 5, foreign matter introduction openings 33 are not formed in inner casing 4, but rather, in outer liner 20.

### ***Claim Rejections - 35 USC 102***

Claims 1, 3-5, 8, 9, 11 and 14 are rejected under 35 USC 102(b) as being anticipated by Liu et al.

To the extent that the present claim language is accurate, the various features of the claimed gas turbine engine are all present in conventional turbine engines of the type disclosed by Liu. With reference to Liu's Figure 1; see outer casing 12, inner casing 11, the outer and inner liners (unnumbered) defined by the walls of flow path 13 and forming an intake passage, and first compressor 24 at the downstream end of the intake passage. Liu's engine further includes a combustor and turbine (not shown but similar to those in Fig. 4), a front fan 8, foreign matter removal passages 18/30, foreign matter

introduction openings 26/34, and foreign matter ejection openings (unnumbered) at the ends of passage sections 18.

With regard to claim 3-5, note that Liu's engine's intake passage includes a portion 27 which curves toward the engine's rotary axis, as well as a reduced diameter portion downstream of the curved portion. The foreign matter introduction openings 26/34 are formed in the curved portion as specified in claim 3, and the foreign matter removal passages 18/30 can be construed as adjacent both the curved portion and the reduced diameter portion as specified in claims 4 and 5.

With respect to claim 8, note also that Liu's foreign matter introduction openings 26/34 are formed in his outer liner..

As concerns claim 9, it is pointed out that Liu's foreign matter introduction openings 26/34 are slot-shaped; see Figure 2 for example.

With regard to claim 14, it is additionally pointed out that Liu's bypass duct 10 is shown as having a slight radially outward curvature; see Figure 1.

### ***Additional References***

Monhardt et al and Shuba are cited as disclosing further examples of gas turbine engines with foreign matter removal systems.

/Louis J. Casaregola/  
Primary Examiner; A.U. 3741  
571-272-4826 (M-F; 7:30-4:00)  
571-273-8300 FAX  
May 13, 2009

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Michael Cuff, can be reached at 571-272-6778.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).